

Memorandum

DATE: OCT 03 2007

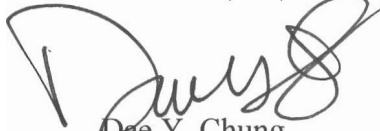
REPLY TO
ATTN OF: EM-60 (Dr. James Shuler, 301-903-5513)

SUBJECT: Revision 1 DOE CoC 9865, Maximus LEU

TO: Edwin E. Rutkowski, NE-45

Attached is Revision 1 (with Approval Record) of DOE Certificate of Compliance (CoC) No. 9865 for the Maximus LEU package. The CoC has been issued to add condition 5(c)(5) "Transport by air of fissile material is not authorized." As part of a 10 CFR Part 71 revision, a new Section, 71.55(f), was included that addressed performance requirements for packages transporting fissile material by air. Since this package was not evaluated to that new requirement, the CoC has been revised to clarify that air transport of fissile material is not authorized.

If you have any questions, please call James Shuler at (301) 903-5513.



Dae Y. Chung

Headquarters Certifying Official
Safety Management and Operations
Office of Environmental Management

Attachments

cc:

J. Shuler, EM-60
Y. Liu, ANL
W. Murphie, PPPO
S. Ludwig, ORNL

U.S. DEPARTMENT OF ENERGY
CERTIFICATE OF COMPLIANCE
For Radioactive Materials Packages

Ia. Certificate Number	Ib. Revision No.	Ic. Package Identification No.	Id. Page No.	Ie. Total No. Pages
9865	1	USA/9865/AF-96 (DOE)	1	2

2. PREAMBLE

- 2a. This certificate is issued under the authority of 49CFR Part 173.7(d).
- 2b. The packaging and contents described in item 5 below meet the safety standards set forth in subpart E, "Package Approval Standards" and subpart F, "Package and Special Form Tests" Title 10, Code of Federal Regulations, Part 71.
- 2c. This certificate does not relieve the consignor from compliance with any requirement of the regulations of the U.S. Department of Transportation or other applicable regulatory agencies, including the government of any country through or into which the package will be transported.

3. This certificate is issued on the basis of a safety analysis report of the package design or application --

(1) Prepared by (Name and address):

Portsmouth/Paducah Project Office
U. S. Department of Energy
1017 Majestic Drive, Suite 200
Lexington, KY 40513

(2) Title and Identification of report or application:

Safety Basis for Certification of Project Maximus LEU Type
A Drums as a Type AF Packaging Configuration,
ORNL/NTRC-020/V1 and 2, Rev.1

(3) Date:

Feb 2007

4. CONDITIONS

This certificate is conditional upon the fulfilling of the applicable Operational and Quality Assurance requirements of 49CFR parts 100-199 and 10CFR Part 71. and the conditions specified in item 5 below.

5. Description of Packaging and Authorized Contents, Model Number, Transport Index, Other Conditions, and References:

(a) Packaging

(1) Model: Maximus LEU

(2) Description: The packaging is a DOT 7A Type A drum containing a square wooden box (overpack) that surrounds an inner metal canister, which contains low-enriched uranium (LEU) oxide. The packaging consists of a 16-gauge, 55-gallon galvanized carbon steel drum with three rolling hoops, manufactured to the ORNL Specification No. 100-1A2-007 and meeting DOT 7A Type A requirements. The drum has a 16-gauge removable lid, 12-gauge closure ring with 5/8-inch diameter bolt and nut, and elastomer gasket. The inner metal canister is approximately 12-in diameter, 20-in height, 0.06-in wall, and is likely made of either carbon steel or stainless steel. The wooden box has approximate dimensions of 15-inch by 15-inch square and 25-inch tall. The wooden box consists of layers of wood boards that are nailed and tied together with four long bolts and two angle steel on top of the wooden box for lifting and handling.

6a. Date of Issuance:

OCT 03 2007

6b. Expiration Date: July 31, 2008

FOR THE U.S. DEPARTMENT OF ENERGY

7a. Address (of DOE Issuing Office)

U.S. Department of Energy
Office of Environmental Management, EM-60
1000 Independence Avenue, SW
Washington, DC 20585

7b. Signature, Name, and Title (of DOE Approving Official)


Dae Y. Chung
Headquarters Certifying Official
Safety Management & Operations
Office of Environmental Management

(b) Contents

(1) Type and Form of Material:

Uranium dioxide (UO₂) powder with a U-235 enrichment of nominally 2.593 weight percent; ranging between 2.321 and 2.872 weight percent.

(2) Maximum Quantity of Material Per Package:

The reported net weight of LEU oxide per package is 27.3 ± 0.1 kg. Based on the reported uranium weight fraction and ²³⁵U enrichment, each package contains nominally 23.759 kg of U with 616 g of ²³⁵U. Accounting for mass and isotopic measurement uncertainties, a maximum of 23.933 kg of U containing up to 691 g of ²³⁵U per package is permitted.

(3) Maximum gross weight of each drum shall be less than 500 lbs.

(c) Conditions:

- (1) This certificate authorizes the one-time, one-way shipment of up to 75 drums, as described in the application, from the storage location at the Portsmouth Gaseous Diffusion Plant to a commercial nuclear fuel processing facility (when identified by DOE) for disposition. This certificate shall expire upon completion of the shipping campaign, or upon reaching the certificate expiration date, whichever comes first.
- (2) Prior to shipment, each drum shall be visually inspected to identify any deterioration; although none is expected as the drums have been stored indoors since arriving at Portsmouth in June 2004. Any drum with visual deterioration shall be overpacked into an 85-gallon DOT 7A Type A drum, which shall be appropriately marked for a Type AF shipment.
- (3) The shipments shall be by exclusive use only with no more than 2 packages per conveyance. For each shipment, no more than two conveyances may travel together back to back as in a convoy.
- (4) The CSI=50. Any two of the 75 LEU oxide packages listed in Table 4 of ORNL/NTRC-020, Vol. 1 can be shipped in an exclusive use conveyance,
- (5) Transport by air of fissile material is not authorized.



Department of Energy
Washington, DC 20585

OCT 03 2007

PACKAGING CERTIFICATION APPROVAL RECORD

Certificate of Compliance USA/9865/AF 96(DOE), Revision 1
Maximus LEU

Docket 07-47-9865

Revision 1 of Certificate of Compliance (CoC) USA/9865/AF-96 (DOE) for the Maximus LEU package has been issued to add condition 5(c)(5) "Transport by air of fissile material is not authorized." As part of a 10 CFR Part 71 revision, a new Section, 71.55(f), was included that addressed performance requirements for packages transporting fissile material by air. Since this package was not evaluated to that new requirement, the CoC has been revised to clarify that air transport of fissile material is not authorized.

This certificate constitutes authority for the Department of Energy to use the Maximus LEU package for shipment of the authorized contents under 49 CFR 173.7(d).

Dae Chung
Headquarters Certifying Official
Safety Management & Operations
Office of Environmental Management

Date: 10/31/07

